

Claims

1. An improved wood-plastic composite (WPC) produced from a mixture comprising, wood particles, plastic, and optionally additives, and further comprising an active ingredient that acts as a biocide, and which comprises TBBA or a homologue or derivative thereof, wherein said active ingredient is added to said mixture together with said wood particles during and/or before production of the WPC.
2. An improved WPC according to claim 1, wherein the active ingredient is added to the mixture together with the wood particles according to one or more methods chosen from the following group:
 - impregnation of said wood particles with said active ingredient;
 - coating of said wood particles with a solution or emulsion containing said active ingredient;
 - soaking said wood particles in a solution or emulsion containing said active ingredient; and
 - mixing said wood particles together with said active ingredient in particulate and/or powder form.
3. An improved WPC according to claim 1, wherein the coating of the wood particles with a solution or emulsion containing the active ingredient is accomplished by spraying said wood particles with said solution or emulsion.

4. An improved WPC according to claim 1, wherein the active ingredient is Tetrabromobisphenol A (TBBA) or a homologue or a derivative thereof.
5. An improved WPC according to claim 1, wherein the active ingredient is a solid.
6. An improved WPC according to claim 1, wherein the active ingredient is dissolved in a solvent.
7. An improved WPC according to claim 6, wherein the solvent is an aqueous solvent.
8. An improved WPC according to claim 7, wherein the aqueous solvent comprises water, sodium hydroxide (NaOH), and sodium dithionite ($\text{Na}_2\text{S}_2\text{O}_4$).
9. An improved WPC according to claim 6, wherein the solvent is an organic solvent.
10. An improved WPC according to claim 9, wherein the organic solvent is selected from alcohols, e.g. ethanol, hydrocarbons, toluene and ketones.

11. An improved WPC according to claim 1, wherein the active ingredient is TBBA at a final concentration in said WPC in the range of 0.5% (W/W) to 20% (W/W).

12. An improved WPC according to claim 1, wherein the active ingredient is TBBA at a final concentration in said WPC in the range of 1% (W/W) to 2.5% (W/W).

13. A method of producing an improved wood-plastic composite (WPC) containing an active ingredient that acts as a biocide comprising mixing particles or a powder of said active ingredient with the wood particles or impregnating and/or coating said wood particles with said active ingredient by means of vacuum impregnation, soaking them in a solution or emulsion containing said active ingredient, or by spraying the particles with such a solution or emulsion before combining them with the plastic component and optional additives from which the WPC is produced.